

# **ON-SYSTEM PROGRAMMABLE AND OFF-SYSTEM PROGRAMMABLE CHIP**

5

## **ABSTRACT OF THE DISCLOSURE**

An on-system programmable and off-system programmable chip comprises a control circuit connected to an on-system programmable nonvolatile memory and an off-system programmable nonvolatile memory, and a pumping circuit connected to the on-system programmable nonvolatile memory. In a programming mode of the chip, external programming voltages are provided for programming the off-system programmable nonvolatile memory, and in an operation mode of the chip, the pumping circuit produces internal programming voltages for the on-system programmable nonvolatile memory for programming the on-system programmable nonvolatile memory.

10

15